**ORDER 888**

The Federal Energy Regulatory Commission (?FERC?), in Order 888 has sought to clarify its jurisdiction over transmission. Order 888 provides that FERC has exclusive jurisdiction over the rates, terms, and conditions of all unbundled transmission in interstate commerce, including retail transmission, regardless of whether such transmission was made voluntarily by a public utility or as the result of a state mandated retail access program. While FERC has declared exclusive jurisdiction over retail transmission in interstate commerce, Order 888 provides that FERC will defer to state determinations of jurisdiction under FERC's seven indicator functional/technical test when unbundled retail wheeling occurs as a result of a state retail access program. FERC will also take into account state consideration of other technical indicators that the state believes are appropriate in light of historical uses of particular facilities. FERC's focus is on better defining the line of demarcation between transmission and distribution (seven indicator functional/technical test). The purpose of this filing is to provide input and guidance to the Department of Public Utilities (?Department?) on its review of the line of demarcation between Western Massachusetts Electric Company?s ("WMECO") transmission and distribution facilities.

Historically, WMECO has used indicators similar to FERC?s to determine the classification of facilities. There are four basic principles used by WMECO today to delineate between transmission and distribution. These are: (1) lower voltage distribution systems are primarily installed to connect customer loads; (2) distribution substations are primarily installed to interconnect these lower voltage systems to the bulk power transmission system; (3) transmission substations are primarily installed to reliably integrate transmission facilities; and (4) 100% of the substation costs (i.e. inside the fence costs) will be assigned to either distribution or transmission depending on its classification.

While FERC's seven indicators are appropriate for distribution lines, additional criteria

are required to properly classify substations. It will be shown further that the application of FERC's seven indicators will reaffirm WMECO's long standing approach to classifying certain of its facilities as distribution. In order to apply FERC's seven indicators to the WMECO system and reaffirm current WMECO classification practices, it is appropriate to briefly discuss the actual facilities that make up the WMECO electrical network.

**DESCRIPTION OF THE WMECO SYSTEM**

The WMECO electrical network is composed of 345 kV Extra High Voltage (EHV) transmission lines interconnecting with Lower Voltage (LV) systems, principally 115 kV, to serve both a sub-area transmission function and an intra-regional function. The network is physically made up of approximately 104 miles of 345 kV, 340 miles of 115 kV, 5 miles of 69 kV and over 1,500 miles of three-phase 23 kV and 13.8 kV. At 31 locations on the network, voltage transformation is performed to enable the efficient delivery of power to area load centers.

Generating stations are interconnected at various voltages. The largest central station, Northfield, is tied into the 345 kV system. Others like Mt. Tom and West Springfield tie into the 115 kV system. Two large non-utility generators also tie into the 115 kV system.

The electrical network also contains 15 EHV and LV bulk power tie points to neighboring utilities all rated at 115 kV and above. There are six with New England Power Company, one with Public Service Company of New Hampshire (another NU System Company), one with Niagara Mohawk, one with Massachusetts Municipal Wholesale Electric Company, two with Holyoke Gas and Electric Department and four with The Connecticut Light and Power Company (another NU System Company). Exhibit 1 is a map of the WMECO transmission system showing the various transmission facilities including these tie lines to neighboring utilities.

The 345 kV system of the WMECO electrical network is part of the New England bulk power transmission system. This system transmits power from the large central station at Northfield to four EHV ties with neighboring utilities and two substations feeding WMECO and network customer load. Unique to the WMECO system is its direct electrical interconnection with the neighboring control area in New York. Operating this system at 345 kV allows for the efficient transfer of bulk power within and outside of the New England area. This enables WMECO to efficiently transmit power and provide and share in the reliability benefits of parallel transmission paths.

There are two major bulk power substations that tie into the EHV and LV networks. The Berkshire and Ludlow Substations transform voltage from 345 kV to 115 kV. These substations along with the 115 kV tie lines to neighboring utilities enhance the bulk power transfer capability of the 115 kV system.

In general, the WMECO electrical network, with ties to the EHV system and LV ties to neighboring utilities, provides a path that allows power to move freely within and over the New England transmission network. This means power can flow in any direction, depending on the patterns of generation dispatch and the configuration of the transmission system. This capability enables the WMECO system to reliably contribute to serving the New England region. It provides neighboring systems with access to economic generation and increases reliability with ties to the WMECO transmission system during emergencies.

Operation at the local area network is generally at the 23 kV or 13.8 kV voltage level. WMECO utilizes a 23 kV or 13.8 kV system to receive power from the bulk system to feed other step-down substations that transform voltages to 8.32 kV, 4.8 kV or 4.16 kV distribution levels and directly as a distribution voltage. At the 31 locations where voltage is typically

transformed from 115 kV to 23 kV or 13.8 kV are local area networks that deliver electricity to customers. The WMECO 23 kV and 13.8 kV system is typically operated in a radial configuration. A radial line has a single path of power flow to the load. WMECO has very limited network configurations that would otherwise continuously provide the parallel paths to load

**TRANSMISSION -VS- DISTRIBUTION**

The following discussion identifies the seven indicators FERC will consider in distinguishing distribution from transmission, and provides WMECO?s interpretation of each of those indicators based on its experience with utility practices in Massachusetts, as they relate to the WMECO system.

(1) Local distribution facilities are normally in close proximity to retail customers.

Facilities are in close proximity to retail load if the facility is physically located where it can be tied with distribution transformers to feed customer load in an economical manner. WMECO?s 23 kV or 13.8 kV lines emanating from 115 kV step-down substations either along roadsides or local rights-of-way primarily feed these customers.

(2) Local distribution facilities are primarily radial in character.

Under general industry practice, facilities are defined as radial if alternative supply options do not exist or are not regularly used. WMECO typically operates its 23 kV and 13.8 kV systems in a radial configuration. Under contingency conditions WMECO has the capability to back-up certain of its 23 kV and 13.8 kV facilities.

(3) Power flows into local distribution systems; it rarely, if ever, flows out.

Systems without backyard generation under all load profiles import power only. Those systems with backyard generation may export power under specific load and generation profiles. For WMECO this condition is expected to occur infrequently. In most cases the power flows into the 23 kV or 13.8 kV systems from the 115 kV substations to feed the connected load.

(4) When power enters a local distribution system, it is not reconsigned or transported on to some other market.

The WMECO 23 kV and 13.8 kV systems typically are used to serve local customers and not as bulk power tie lines integrating neighboring electrical systems in Massachusetts, New York, New Hampshire, Connecticut or Vermont.

(5) Power entering a local distribution system is consumed in a comparatively restricted geographical area.

Distribution systems consume power in an area that is limited in size to a town, city or limited number of Massachusetts counties. The WMECO 23 kV and 13.8 kV systems typically are used to serve local customers and not used to transport power across the state of Massachusetts or into other states.

(6) Meters are based at the transmission/local distribution interface to measure flows into the local distribution system.

Meters are located on a distribution system where they may measure the aggregate load on that system. WMECO measures power flow into the 23 kV and 13.8

kV systems at the point of transformation. WMECO may also monitor the power flow along the 23 kV or 13.8 kV systems if necessary to insure reliability.

(7) Local distribution systems will be of reduced voltage.

Historically, the industry has recognized that systems rated 69 kV and above provide the capabilities (i.e., thermal, lower losses) to transmit large amounts of power over long distances and systems below this voltage level are those used to directly feed customers. WMECO believes the 23 kV and 13.8 kV facilities are used as distribution with direct customer connections. The higher voltage 115 kV system has limited direct customer connections due to economics and thus will continue to be the integrated bulk power carrier across and through Massachusetts.

As indicated above, the application of the Order 888 seven indicator functional/technical test to 23 kV and 13.8 kV lines results in the designation of these facilities as local distribution. These indicators reaffirm WMECO?s long standing approach that classified the 23 kV and 13.8 kV facilities as distribution.

Although FERC's seven indicator functional/technical test is helpful in determining whether a line is serving a transmission or distribution function, it fails to clearly identify substation classifications. WMECO proposes to add three additional indicators of distribution to determine whether a substation (where voltage is transformed from one level to another) is a transmission or local distribution facility. WMECO has consistently applied these three indicators to its substations. The three additional indicators of distribution are as follows:

(1) Distribution substations are located electrically primarily to feed local distribution systems as classified under indicators 1 through 7.

Distribution substations are needed to feed load at the location where local distribution systems are installed.

(2) Power flows into distribution substations; it rarely, if ever, flows out.

While FERC's third indicator focuses on a single distribution line, this additional indicator would consider the aggregate of distribution lines at a single substation. Distribution substations without backyard generation under all load profiles import power. Distribution substations with backyard generation may export power, under specific load and generation profiles, into the transmission system, whether or not the generation is connected to a distribution line.

(3) Distribution substations do not facilitate the switching of transmission facilities.

WMECO considers distribution substations to be primarily tied to a single transmission line either in a radial configuration or at a point between termination? s. WMECO believes that these substations are distribution facilities because they primarily serve the needs of the local area load connected to the line. Substations are considered transmission substations where upon loss of a single path there exist at least two alternate paths for power to flow. This permits service not only to its local area, but also to neighboring areas.

The application of these additional indicators results in the identification of certain substations as performing a distribution function. Therefore, all costs associated with these substations ("inside the fence costs") are allocated to distribution plant. This practice eliminates the complexity and subjectiveness surrounding the classification of each component (e.g.,

foundations, structures, wiring, buswork, relaying) inside a substation. Today, 15 of WMECO's substations, rated 69 kV and above, are classified as transmission plant. The rest of WMECO?s substations, 21, are classified as distribution plant. The application of the ten indicators discussed above including FERC?s seven indicators, to the WMECO system, would result in no reclassifications of WMECO facilities.

**SUMMARY**

In summary, FERC's seven indicator functional/technical test and the development of WMECO's electrical network all support the classification of WMECO's 23 kV and 13.8 kV systems as distribution facilities as currently done today. These and the additional criteria proposed, currently used by WMECO and accepted by FERC, properly classify WMECO substations.